REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-4, 7, 8, and 11-19 are active in this application. Claims 1, 4, 7, 8, and 12 are amended, and Claims 18 and 19 are added by the present amendment. Furthermore, Claims 5, 6, 9, and 10 stand withdrawn in response to a previous Restriction Requirement.

Amendments to the claims and new claims find support in the application as originally filed, at least at Applicants' Figure 14, and in the specification at page 39, lines 12-14. Thus, no new matter is added.

In the outstanding Office Action dated May 26, 2009, Claim 12 was objected to; Claims 1-3 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 5,299,612 to Pramanik et al. (herein "Pramanik") in view of U.S. Publication 2004/0173413 to Angst and Korean Publication No. KR2001105482 to Hwang; Claims 12-17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Pramanik in view of Angst, Hwang, and U.S. Patent 5,686,707 to Iijima; and Claims 4, 7, and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable Pramanik, Angst, Hwang, and U.S. Publication 2004/0079591 to Muller.

Initially, Applicants gratefully acknowledge the courtesy of an interview with Examiner Chan and Supervisory Patent Examiner Benson on July 9, 2009. During the interview, differences between the claimed invention and references in the Office Action were discussed. Comments and claim amendments discussed during the interview are reiterated below.

Regarding the claim objection, Claim 12 is amended to correct a minor informality. Thus, it is respectfully requested the objection to Claim 12 be withdrawn.

Additionally, Applicants respectfully traverse the rejection of Claims 1-3 and 11 under 35 U.S.C. § 103(a) as unpatentable over Pramanik, Angst, and Hwang, with respect to amended independent Claim 1 and added independent Claims 18 and 19.

Amended Claim 1 is directed to an emergency stop system for an elevator that includes, in part, a detection portion for detecting a speed and position of a car, a control portion that outputs an activation signal when a speed of the car becomes higher than an overspeed setting level, a governor rope that moves in synchronism with raising and lowering of the car and is wound around a governor sheave, a rope catching device having a ratchet gear rotated integrally with the governor sheave, and a braking portion that brakes the car when the governor rope is restrained and the car is displaced with respect to the governor rope.

As discussed during the interview, Pramanik, Angst, and Hwang in the Office Action fail to teach or suggest each of the features of amended Claim 1. For example, the references fail to teach or suggest a rope catching device having a ratchet gear rotated integrally with the governor sheave.

As noted in the Office Action, Pramanik, Angst, and Hwang fail to disclose a detection portion provided to a governor sheave around which a governor rope is wound.[1] In addition, Applicants respectfully traverse the assertion in the Office Action that Hwang discloses a ratchet gear rotated integrally with the governor sheave.[2]

Hwang describes an elevator governor with an emergency stopping device for up and down directions of movement,[3] which includes a second rope cat wife (e.g. a braking member) which is attached to a hinged ratchet adjusting spring large 16' which is attached to ratchet doctor bar 14'. Ratchet doctor bar 14' is attached to a ratchet pin 13' that is formed in

[1] Office Action at page 8, lines 13-15.
[2] Office Action at page 9, lines 8-12.
[3] Hwang at Abstract.

the second ratchet gear 12'. Thus, as shown in Hwang Fig. 4, the ratchet gear 12' is not able to rotate freely because the second ratchet gear 12' is connected near its periphery to the ratchet doctor bar 14'. Thus, the ratchet gear 12' is merely able to move a small amount to compress the ratchet operation spring 17'. In addition, according to Hwang, a stopping chain 7' is formed on a side of the speed governor wheel.[4] Thus, according to Hwang, the second stopping chain 7' is attached to and rotates with the speed governor wheel 6, and a solenoid 26 may cause the rotating second stopping chain 7' to mesh with the stationary second ratchet gear 12'. When the rotating second stopping chain 7' meshes with the second ratchet gear 12', a force may be transmitted through ratchet pin 13' to pull the ratchet doctor bar 14' towards the speed governor wheel 6 and engage the cat wife 20' with the governor rope. Thus, Hwang only show stationary ratchet gears 12 and 12' that do not rotate and do not rotate integrally with a governor sheave. Therefore, Hwang fails to teach or suggest a ratchet gear that is rotated integrally with a governor sheave.

Accordingly, Applicants respectfully submit that Pramanik, Angst, and Hwang fail to teach or suggest "a governor rope that moves in synchronism with raising and lowering of the car and is wound around a governor sheave; a rope catching device having ... a ratchet gear rotated integrally with the governor sheave," as recited in amended Claim 1.

Therefore, Applicants respectfully submit that independent Claim 1 and claims depending therefrom patentably define over Pramanik, Angst, and Hwang.

Additionally, Applicants respectfully traverse the rejections of Claims 4, 7, 8 and 12-17 under 35 U.S.C. § 103(a) as unpatentable over Pramanik, Angst, Hwang, and Iijima or Muller.

Claims 4, 7, 8 and 12-17 depend from independent Claim 1, which as discussed above is believed to patentably define over Pramanik, Angst, and Hwang. In addition, Applicants

[4] Hwang at "Effects of the Invention."

respectfully submit that Muller and Iijima also fail to teach or suggest the claimed features lacking in the disclosure of Pramanik, Angst, and Hwang. Therefore, it is respectfully requested those rejections under 35 U.S.C. § 103(a) also be withdrawn.

Claim 18 is added to recite an emergency stop system for an elevator that includes, in part, a detection portion configured to detect the speed and a position of the car, a control portion having a storage portion that stores an overspeed setting level, a rope catching device, a governor rope that moves with raising and lowering of the car, and a braking portion. The storage portion stores a normal speed pattern, and the overspeed setting level stored in the storage portion includes a first overspeed pattern and a second overspeed pattern. Each of the normal speed pattern, first overspeed pattern, and second overspeed pattern progressively vary based on a distance between the position of the car and the service floor. Further, a difference between the first overspeed pattern and the normal speed pattern, and a difference between the second overspeed pattern and the first overspeed pattern are each set to be constant at each position of the car, so that the difference between the first overspeed pattern and the normal speed pattern is the same at every position of the car, and also so that the difference between the second overspeed pattern and the first overspeed pattern is the same at every position of the car. Added Claim 18 finds support in the application as originally filed, at least in the Specification at page 8, lines 12-24. Thus, no new matter is added.

As discussed during the interview, the references in the Office Action fail to teach or suggest each of the features of added Claim 18. For example, the references fail to teach or suggest a difference between a second overspeed pattern and a first overspeed pattern or a difference between a first overspeed pattern and a normal speed pattern where the differences are the same at each position of the car. Additionally, Applicants respectfully traverse the assertion in the Office Action that Angst discloses those features.

Angst Fig. 3 shows a diagram with a speed limit value graph 28 and a graph for normal speed operation 27. According to Angst Fig. 3, a difference between the normal speed operation graph 27 and the speed limit value graph 28 varies based on a position of the car. For example, Angst shows that there is a very small difference or no difference at low speed (i.e., when graphs 27 and 28 converge near the zero speed line), while the difference between graphs 27 and 28 gradually increases at different car positions. Therefore, according to Angst Fig. 3, the difference between graphs 27 and 28 is not constant at each position of the car and instead the difference varies based on the position of the car. In addition, as shown in Angst Figs. 7 and 8, although differences between graphs 28.1, 28.2, and 28.3 appear to be constant during a constant speed portion of the curve (i.e., during the vertical portion of graph 28.1, 28.2, and 28.3), the differences between those curves in Angst Figs. 7 and 8 are not depicted to be constant in the portion of the curves at reduced speed (i.e. at the portion where the curves bend towards the horizontal). Additionally, as noted in the Office Action, Figures 7 and 8 do not show the variation of the curves at the "beginning portion" (i.e., the portion of the curves when the speed is close to zero).[5] Applicants respectfully submit that since Angst Fig. 3 fails to teach or suggest any constant relationship between graphs 27 and 28, it would not have been obvious to add a constant relationship to Angst Figs. 7 and 8, and Angst provides no teaching or suggestion for developing the claimed constant relationship. On the other hand, Angst shows a relationship that is not constant in Fig. 3 regarding the differences between curves 27 and 28. Therefore, it is respectfully submitted that Angst actually teaches away from "a difference between the first overspeed pattern and the normal speed pattern at a first position of the car is set to be equal to a difference between the first overspeed pattern and the normal speed pattern at every other position of the car, and a difference between the second overspeed pattern and the first

[5] Office Action at page 7, last three lines.

overspeed pattern at the first position of the car is set to be equal to a difference between the second overspeed pattern and the first overspeed pattern at every other position of the car," as recited in Claim 18.

Accordingly, Applicants respectfully submit that Pramanik, Angst, Hwang, and Iijima also fail to teach or suggest the features of added Claim 18, and previously presented Claim 16.

In addition, Claim 19 is added to recite an emergency stop system for an elevator that includes, in part, a detection portion configured to detect a speed and a position of a car, a control portion configured to compute, each time the car travels, a relationship between the position of the car and the speed of the car as an overspeed setting level set to be a value larger than the speed of the car during normal operation. Added Claim 19 finds support in the application as originally filed at least in the Specification at page 9, lines 1-11. Thus, no new matter is added.

As discussed during the interview, the references in the Office Action fail to teach or suggest the features of added Claim 19. In addition, Applicants respectfully traverse the assertion in the Office Action that Iijima discloses a control portion 37 that is configured to compute an overspeed setting level each time the elevator travels.[6]

Iijima describes an elevator control system to land a car at floors during abnormal normal conditions.[7] In particular, Iijima describes an output 7a of a current controller 38 that is applied to a power converter 10, and the power converter 10 supplies the current corresponding to the signal 7a to a motor 4 which controls a position of the elevator cage 2.[8] Thus, the output of the control system of Iijima is a control signal to control a speed of a motor and does not trigger a rope catching device. Furthermore, as shown in Iijima Figure 3,

[6] Office Action at page 8, lines 3 and 4.
[7] Iijima at Title.
[8] Iijima at column 7, lines 34-43.

an output of the control system described by Iijima is signal 7a output from the current controller which is provided to control the motor which moves the elevator car. Thus, Iijima only describes controlling a normal operating speed of an elevator car, and Iijima fails to describe a system that controls an overspeed setting level of an elevator car. Therefore, Iijima also fails to compute an overspeed setting level, and Iijima fails to compute an overspeed setting level each time an elevator travels.

Therefore, Applicants respectfully submit that Pramanik, Angst, Hwang, and Iijima also fail to teach or suggest "a control portion configured to compute, each time the car travels, a relationship between the position of the car and the speed of the car as an overspeed setting level set to be a value larger than the speed of the car during normal operation," as recited in added Claim 19, and as similarly recited in previously presented Claim 17.

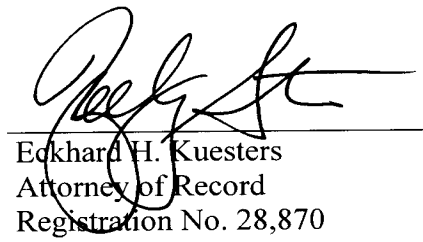
Accordingly, Applicants respectfully submit that Claims 16 and 17 also patentably define over the references in the Office Action for the distinct reasons noted above, in addition to the reasons discussed above with respect to the independent claims. Furthermore, it is respectfully submitted that added Claims 18 and 19 also patentably define over the references in the Office Action.

Therefore, Applicants respectfully submit that independent Claims 1, 18, and 19, and claims depending therefore, are allowable.

Consequently, in light of the above discussion and in view of the present amendment, this application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Eckhard H. Kuesters
Attorney of Record
Registration No. 28,870

Zachary S. Stern
Registration No. 54,719

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)

1381557_1.DOC